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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,021

12/20/2007

Nazir Khan

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EXAMINER

CHIANG, TIMOTHY S

ART UNIT

PAPER NUMBER

1761

NOTIFICATION DATE

DELIVERY MODE

08/19/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@slpatents.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,021	<b>Applicant(s)</b> KHAN ET AL.	
	<b>Examiner</b> TIMOTHY CHIANG	<b>Art Unit</b> 1761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 8 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1 and 9, the limitation introduced by amendment which claims "wherein the laser-markable material forms a mark when irradiated with a laser at a wavelength of 10,600 nm" is unclear and indefinite in how the material is to "form" a mark. It is unclear whether the marking is being produced due in some way to a mechanism yet introduced, or by charring, or other.

Claim 2 claims the limitation of wherein a binder has a "labile" group. It is unclear as to what functional group the applicant is claiming with the limitation of "labile" as "labile" simply means "changing". Further, the Applicant has claimed the limitation of "that can undergo an elimination reaction to give a colour-forming entity". This added limitation brings no further clarity to the term "labile group" as it effectively introduced further indefiniteness issues, particularly with the phrase "that can undergo...". The term "labile" and the new limitations remain unclear in distinctly identifying the claimed invention.

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3. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation of a multivalent metal that undergoes a color change due to a change in oxidation state, on irradiation, is not supported in the written description.

***Claim Rejections – 102/103***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1-3, 5-6, 10-11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lee et al. (US Pat. 6,351,063; hereinafter "Lee").

Regarding claims 1-3 and 10-11, Lee discloses a composition comprising a conductive polymer (polypyrrole, polyfuran, polythiophene, polyaniline; col. 3, lines 6-10), a solvent (col.3, line 61-65), a binder (col. 3, line 20), and a material comprising a multivalent metal that undergoes a color change due to a change in oxidation state, on irradiation (col. 3, lines 12-19, col. 4, lines 1-6). While Lee does not specifically state that the color-change material is "laser-markable" that absorbs radiation at a wavelength of 10,600 nm, or that the color change is due to a change in oxidation state on irradiation, such is understood as intrinsic or inherent to the composition of Lee disclosing a black pigment which would absorb to at least a degree, wavelengths of 10,600nm, and conductive particles of metals and metal oxides (paragraph 3, lines 12-19 and lines 48-53). In the alternative, at the very least, such limitations would have been obvious to one skilled in the art at the time of invention as Lee discloses "pigment particles for adjusting the transmittance of light at different wavelengths" (paragraph 4, lines 1-3). It is unclear how the claimed limitation of "wherein the laser-markable material forms a mark when irradiated with a laser at a wavelength of 10,600", however, such would be intrinsically or implicitly disclosed by the disclosure of Lee as shown above as Lee teaches the 3 required components of the claimed invention. The

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limitations are either inherently met by the composition of Lee, or in the alternative, obvious in view of Lee as shown above.

Regarding claims 5-6, Lee's disclosure of black pigment particles and pigment particles for adjusting the transmittance of light at different wavelengths meets the limitation of a "color-former" and a "colorless electron-donating dye precursor" within the broadest reasonable interpretation of "color former" and "colorless electron-donating dye precursor".

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Madan et al. (US Pat. 5,567,763; hereinafter "Madan").

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Lee discloses the composition as shown above, However, Lee fails to teach the composition comprising ammonium octamolybdate (AOM). Lee teaches the polymeric composition as a conductive film applied through spray coating (col. 5, line 12).

Madan teaches a spray-coat polymeric composition comprising AOM for the purposes of providing a suitable flame retardant (col. 7, lines 29-37).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided AOM in Lee's polymeric spray-coat composition in order to provide a suitable flame retardant known in the art as taught by Madan's teaching of polymeric spray-coating compositions.

### ***Response to Arguments***

11. Applicant's arguments filed 6/08/2011 have been fully considered but they are not persuasive.

Applicant's arguments in regards to outstanding Double Patenting rejections have been reviewed and found persuasive or overcome by way of amendments. Outstanding double patenting rejections have been withdrawn.

Outstanding 112 rejection as drawn to the indefiniteness of the claimed term "labile" has been maintained as the term remains present and the term itself is not defined in a manner that brings clarity to the invention, but rather the Applicants have added further indefiniteness by claiming the limitation of "that can undergo...". It remains unclear what the exact identification of the "labile group" is, so the rejection is maintained.

Regarding Applicant's arguments against the rejection of the claimed multivalent metal component with the limitation of wherein the multivalent metal component undergoes a color change due to a change in oxidation state, the claimed limitation does not appear to have support in the written description. Further, it is well known in the art that metal oxidation, such as copper or nickel oxidation, results in a color change.

Regarding Applicant's arguments regarding inherency, without further clarity on the indefinite limitation of the forming of marks when irradiated with laser, the rejection is maintained and the arguments are found not persuasive. The Examiner maintains that the black pigment would "absorb" to at least a degree, wavelengths of 10,600nm, as relied upon above.

Regarding Applicants arguments regarding the "color-formers", the Applicant argues that color-formers are different than pigment in that pigments have color but do not form a color. This argument is not persuasive as the limitation of "color-former" in the broadest reasonable interpretation, is something that imparts color, which would include pigments.

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within



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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY CHIANG whose telephone number is (571)270-7348. The examiner can normally be reached on Monday - Thursday 9:00AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Harold Y Pyon/  
Supervisory Patent Examiner, Art  
Unit 1761

/TIMOTHY CHIANG/  
Examiner, Art Unit 1761  
8/11/2011